

## **REMARKS**

Entry of the foregoing and reconsideration of the subject application are respectfully requested in light of the amendments above and the comments which follow.

As correctly noted in the Office Action Summary, claims 1-4, 6, 8-29 and 66-74 were pending. By the present response, claim 3 has been amended. Thus, upon entry of the present response, claims 1-4, 6, 8-29 and 66-74 remain pending and await further consideration on the merits.

Support for the foregoing amendments can be found, for example, in at least the following locations in the original disclosure: the original claims and the specification, page 7, paragraph 5.

### ***CLAIM REJECTIONS UNDER 35 U.S.C. §112***

Claim 3 stands rejected under 35 U.S.C. §112, first paragraph on the grounds set forth in paragraph 2 of the Official Action. By the present response, Applicants have amended claim 3 in a manner which addresses the above-noted rejection. Reconsideration and withdrawal of the rejection is respectfully requested.

### ***CLAIM REJECTIONS UNDER 35 U.S.C. §102***

Claims 1-4, 6, 8, 12, 13, 16, 18, 22, 24, 28 and 74 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication No. US 2003/0044519 to Takai (hereafter "*Takai*") on the grounds set forth in paragraph 4 of the Official Action. This rejection has been obviated by submission of the accompanying Declaration by the Inventor under 37 C.F.R. § 1.131.

The Declaration shows reduction to practice of the invention of the rejected claims prior to the critical date of the *Takai* reference (e.g., June 14, 2001). For example, at least the features of independent claim 1 are shown as reduced to practice by the experiments documented in the attached Declaration by the Inventors under 37 C.F.R. § 1.131.

Because the *Takai* reference is no longer available against the claims of the present application, withdrawal of the rejection is respectfully requested.

***CLAIM REJECTIONS UNDER 35 U.S.C. §103***

Claims 9-11, 17, 19-21, 23, 25-27, 29 and 66-73 stand rejected under 35 U.S.C. §103(a) as unpatentable over the disclosure in *Takai* on the grounds set forth in paragraph 5 of the Official Action. This rejection has been obviated by submission of the accompanying Declaration by the Inventors under 37 C.F.R. § 1.131.

The Declaration shows reduction to practice of the invention of the rejected claims prior to the critical date of the *Takai* reference (e.g., June 14, 2001). For example, at least the features of independent claim 1 are shown as reduced to practice by the experiments documented in the attached Declaration by the Inventors under 37 C.F.R. § 1.131.

Because the *Takai* reference is no longer available against the claims of the present application, withdrawal of the rejection is respectfully requested.

Claims 14 and 15 stand rejected under 35 U.S.C. §103(a) as unpatentable over the disclosure in *Takai* alone or in the alternative in view of U.S. Patent No. 3,037,923 to Gnau (hereafter "*Gnau*") on the grounds set forth in paragraph 6 of the

Official Action. This rejection has been obviated by submission of the accompanying Declaration by the Inventors under 37 C.F.R. § 1.131.

The Declaration shows reduction to practice prior of the invention of the rejected claims to the critical date of the *Takai* reference (e.g., June 14, 2001). For example, at least the features of independent claim 1 are shown as reduced to practice by the experiments documented in the attached Declaration by the Inventors under 37 C.F.R. § 1.131.

Because the *Takai* reference is no longer available against the claims of the present application, withdrawal of the rejection based on the combination of *Takai* and *Gnau* is respectfully requested.

Claims 1-24 stand rejected under 35 U.S.C. §103(a) as unpatentable over the disclosure in Affoune et al., *Langmuir*, vol. 17, no. 2, pp.547-551 (2001) (hereafter "*Affoune et al.*") on the grounds set forth in paragraph 7 of the Official Action. This rejection has been obviated by submission of the accompanying Declaration by the Inventors under 37 C.F.R. § 1.131.

The Declaration shows reduction to practice of the invention of the rejected claims prior to the critical date of the *Affoune et al.* reference (e.g., December 28, 2000). For example, at least the features of independent claim 1 are shown as reduced to practice by the experiments documented in the attached Declaration by the Inventors under 37 C.F.R. § 1.131.

Because the *Affoune et al.* reference is no longer available against the claims of the present application, withdrawal of the rejection is respectfully requested.

Claims 1-8, 12, 13, 15, 16, 19-22, 24, 28 and 19 stand rejected under 35 U.S.C. §103(a) as unpatentable over the disclosure in U.S. Patent No. 6,258,237 to Gal-Or et al. (hereafter "*Gal-Or et al.*") on the grounds set forth in paragraph 8 of the Official Action. For at least the following reasons, the rejection should be withdrawn.

*Gal-Or et al.* discloses a method to deposit diamond particles on a surface of a substrate. The method discloses electrophoretic deposition.

The Examiner notes that *Gal-Or et al.* is directed to diamond particle deposition while the present claims are directed to nanostructure-containing material comprising at least one of nanotubes and nanowires (e.g. claim 1) and more particularly to single-walled and multi-walled carbon nanotubes (e.g., claim 6). The Examiner in considering the disclosure of electrophoretic deposition of diamond particles in *Gal-Or et al.* has made the following observations: The difference between *Gal-Or et al.* and the present claims is the recited type of nano-structure containing materials. The Examiner then concludes that it would have been obvious to one of ordinary skill in the art to modify *Gal-Or et al.* teachings because diamond particles are a type of carbon particles and the selection of known equivalents is within the level of ordinary skill in the art.

The above conclusions are respectfully traversed.

First, it is noted that independent claim 1 recites nanostructure-containing material comprising at least one of nanotubes and nanowires. Diamond particles, while being a type of carbon particle, are not a nanotube or a nanowire.

Second, it is not at all obvious or a logical extension that the methods used to electrophoretically deposit diamond particles can be translated to the electrophoretic deposition of nanotubes and nanowires. For example, electrophoretic deposition

uses a stabilized suspension. Preparing a stabilized suspension of diamond particles is facilitated by the small size and geometry of the particles. In contrast, nanotubes and nanowires are fibrous and tend to agglomerate. Thus, there is an additional consideration present when forming the suspension of nanotubes and nanowires that is not present, and does not necessarily follow, from the formation of suspensions of diamond nanoparticles.

For at least the above noted reasons, the rejection of claim 1 and dependent claims 2-8, 12, 13, 15, 16, 19-22, 24, 28 and 29 should be withdrawn.

Further, claim 15 has been improperly rejected. Claim 15 depends from claim 14, which has not been rejected by the disclosure in *Gal-Or et al.* Thus, because claim 14 distinguishes over the disclosure in *Gal-Or et al.* and claim 15 contains the subject matter of claim 14, claim 15 also distinguishes over the disclosure in *Gal-Or et al.* Withdrawal of the rejection of claim 15 is respectfully requested for at least this further reason.

In addition, claims 19-21 have been improperly rejected. Claims 19-21 depend from claim 18, which has not been rejected by the disclosure in *Gal-Or et al.* Thus, because claim 18 distinguishes over the disclosure in *Gal-Or et al.* and claims 19-21 contain the subject matter of claim 18, claims 19-21 also distinguish over the disclosure in *Gal-Or et al.* Withdrawal of the rejection of claims 19-21 is respectfully requested for at least this further reason.

## **CONCLUSION**

From the foregoing, further and favorable action in the form of a Notice of Allowance is earnestly solicited. Should the Examiner feel that any issues remain,

it is requested that the undersigned be contacted so that any such issues may be adequately addressed and prosecution of the instant application expedited.

Respectfully submitted,

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